

WE CLAIM:

1 1. A method of providing status data regarding a user item, the
2 method comprising the steps of:
3 obtaining a first type of status data, a second type of status data and a third
4 type of status data;
5 encoding the first type of status data in a first data field of a fixed-length
6 data packet;
7 encoding the second type of status data and the third type of status data in
8 a second data field of the fixed-length data packet; and
9 transmitting the data packet.

1 2. The method of claim 1, wherein the first type of status data
2 comprises location data.

1 3. The method of claim 1, wherein the fixed-length data packet is a
2 15-digit data packet.

1 4. The method of claim 1, wherein at least one of the second type of
2 status data and the third type of status data comprises alarm status data.

1 5. The method of claim 1, further comprising an initial step of
2 receiving a user's request for at least one of the first, second and third types of status data.

1 6. The method of claim 1, further comprising a step of receiving a
2 user item control command.

1 7. The method of claim 1, wherein the second data field occupies
2 approximately one byte of the fixed-length data packet.

1 8. The method of claim 3, wherein the second data field is a two-digit
2 data field.

1 9. The method of claim 3, wherein the first type of status data
2 comprises location data and wherein the first data field occupies 12 digits of the fixed-
3 length data packet.

1 10. The method of claim 6, further comprising a step of controlling the
2 user item according to the user item control command.

1 11. The method of claim 9, further comprising a step of encoding a
2 fourth type of status data in a third data field of the fixed-length data packet.

1 12. A method of encoding alarm code data, speed data, direction data
2 and location data regarding a user item and transmitting these data, the method
3 comprising the steps of:

4 encoding the location data in a location data field of a fixed-length data
5 packet;

6 encoding the direction data in a direction data field of the fixed-length data
7 packet;

8 encoding the alarm code data and the speed data in a combined data field
9 of the fixed-length data packet; and

10 transmitting the data packet.

1 13. The method of claim 12, wherein the fixed-length data packet
2 comprises a 15-digit data packet.

1 14. The method of claim 12, wherein the location data field comprises
2 a 12-digit data field.

1 15. The method of claim 12, wherein the combined data field
2 comprises a 2-digit data field.

1 16. The method of claim 12, wherein the combined data field occupies
2 approximately one byte of the fixed-length data packet.

1 17. The method of claim 12, further comprising an initial step of
2 receiving a request for at least one of the location data, alarm code data, speed data,
3 direction data and location data.

1 18. The method of claim 12, further comprising a step of receiving a
2 user item control command.

1 19. The method of claim 18, further comprising a step of controlling
2 the user item according to the user item control command.

1 20. A method for automatically providing status data regarding a user
2 item, the method comprising the steps of:

3 receiving a downstream data packet, the downstream data packet
4 comprising a downstream message code;

5 decoding the downstream message code to determine requested status
6 data;

7 obtaining at least a portion of the requested status data, the portion
8 comprising a plurality of data types;

9 encoding the portion in an upstream data packet, the upstream data packet
10 comprising a plurality of content fields including at least one content field which
11 comprises a second plurality of data types; and

12 transmitting the upstream data packet.

1 21. The method of claim 20, wherein the upstream data packet
2 comprises a fixed-length data packet.

1 22. The method of claim 20, wherein the upstream data packet
2 comprises a 15-digit data packet.

1 23. The method of claim 20, wherein one or more content fields
2 comprise a location data field.

1 24. The method of claim 20, wherein one or more content fields
2 comprise an alarm data field.

1 25. The method of claim 20, wherein the content field which comprises
2 a second plurality of data types occupies approximately one byte of the upstream data
3 packet.

1 26. The method of claim 20, further comprising a step of receiving a
2 user item control command.

1 27. The method of claim 22, wherein the content field which comprises
2 a second plurality of data types occupies two digits of the upstream data packet.

1 28. The method of claim 23, wherein the location data field comprises
2 a 12-digit data field.

1 29. The method of claim 26, further comprising a step of controlling
2 the user item according to the user item control command.

1 30. A method of notifying a user of an occurrence of an event
2 associated with a user item, the method comprising the steps of:
3 receiving a set of notification instructions;
4 automatically detecting the occurrence of the event;
5 encoding a data packet with event data, the data packet comprising a
6 plurality of content fields, wherein at least one content field comprises a plurality of event
7 data types;
8 transmitting the data packet over a communication link to an automated
9 network operations center;
10 receiving the data packet at the automated network operations center;
11 decoding the data packet;
12 making an automatic determination, based in part upon the decoded event
13 data and upon the set of notification instructions, whether the user should be notified of
14 the event; and
15 automatically notifying the user of the event if the determination is that the
16 user should be notified.

1 31. The method of claim 30, wherein the event corresponds to a
2 condition of the user item.

1 32. The method of claim 30, wherein the detecting step further
2 comprises the step of polling the user item.

1 33. The method of claim 30, wherein the detecting step is responsive to
2 a request.

1 46. The method of claim 34, wherein the inputting step is performed
2 via a keypad corresponding to the telephone.

1 47. The method of claim 34, wherein the inputting step is performed
2 via a telephone utilizing voice input and wherein the automated network operations center
3 comprises a voice recognition system.

1 48. The method of claim 36, wherein the plurality of notification
2 devices is selected from the group consisting of facsimile machines, telephones, pagers,
3 electronic mail, and a public information network interface.

1 49. The method of claim 40, further comprising a step of controlling
2 the user item according to the user item control command.

1 50. The method of claim 42, wherein the public information network is
2 the Internet.

1 51. An apparatus for providing status data regarding a user item, the
2 apparatus comprising:
3 means for obtaining a first type of status data, a second type of status data
4 and a third type of status data;
5 means for encoding the first type of status data in a first data field of a
6 fixed-length data packet and for encoding the second type of status data and the third type
7 of status data in a second data field of the fixed-length data packet; and
8 means for transmitting the data packet.

1 52. The apparatus of claim 51, wherein the first type of status data
2 comprises location data.

1 53. The apparatus of claim 51, wherein the fixed-length data packet is
2 a 15-digit data packet.

1 54. The apparatus of claim 51, wherein at least one of the second type
2 of status data and the third type of status data comprises alarm status data.

1 55. The apparatus of claim 51, further comprising means for receiving
2 a user's request for at least one of the first, second and third types of status data.

56. The apparatus of claim 51, further comprising means for receiving a user item control command.

57. The apparatus of claim 51, wherein the second data field occupies approximately one byte of the fixed-length data packet.

58. The apparatus of claim 53, wherein the second data field is a two-digit data field.

59. The apparatus of claim 53, wherein the first type of status data comprises location data and wherein the first data field occupies 12 digits of the fixed-length data packet.

60. The apparatus of claim 56, further comprising means for controlling the user item according to the user item control command.

61. The apparatus of claim 59, wherein the encoding means encodes a fourth type of status data in a third data field of the fixed-length data packet.

62. An apparatus for encoding alarm code data, speed data, direction data and location data regarding a user item and transmitting these data, the apparatus comprising:

means for encoding the location data in a location data field of a fixed-length data packet;

means for encoding the direction data in a direction data field of the fixed-length data packet, and for encoding the alarm code data and the speed data in a combined data field of the fixed-length data packet; and

means for transmitting the data packet.

63. The apparatus of claim 62, wherein the fixed-length data packet comprises a 15-digit data packet.

64. The apparatus of claim 62, wherein the location data field comprises a 12-digit data field.

65. The apparatus of claim 62, wherein the combined data field comprises a 2-digit data field.

1 66. The apparatus of claim 62, wherein the combined data field
2 occupies approximately one byte of the fixed-length data packet.

1 67. The apparatus of claim 62, further comprising means for receiving
2 a request for at least one of the location data, alarm code data, speed data, direction data
3 and location data.

1 68. The apparatus of claim 62, further comprising means for receiving
2 a user item control command.

1 69. The apparatus of claim 68, further comprising means for
2 controlling the user item according to the user item control command.

1 70. An apparatus for automatically providing status data regarding a
2 user item, the apparatus comprising:
3 means for receiving a downstream data packet, the downstream data
4 packet comprising a downstream message code;
5 means for decoding the downstream message code to determine requested
6 status data;
7 means for obtaining at least a portion of the requested status data, the
8 portion comprising a plurality of data types;
9 means for encoding the portion in an upstream data packet, the upstream
10 data packet comprising a plurality of content fields including at least one content field
11 which comprises a second plurality of data types; and
12 means for transmitting the upstream data packet.

1 71. The apparatus of claim 70, wherein the upstream data packet
2 comprises a fixed-length data packet.

1 72. The apparatus of claim 70, wherein the upstream data packet
2 comprises a 15-digit data packet.

1 73. The apparatus of claim 70, wherein one or more content fields
2 comprise a location data field.

1 74. The apparatus of claim 70, wherein one or more content fields
2 comprise an alarm data field.

1 75. The apparatus of claim 70, wherein the content field which
2 comprises a second plurality of data types occupies approximately one byte of the
3 upstream data packet.

1 76. The apparatus of claim 70, wherein the means for receiving a
2 downstream data packet comprises means for receiving a user item control command.

1 77. The apparatus of claim 72, wherein the content field which
2 comprises a second plurality of data types occupies two digits of the upstream data
3 packet.

1 78. The apparatus of claim 73, wherein the location data field
2 comprises a 12-digit data field.

1 79. The apparatus of claim 76, further comprising means for
2 controlling the user item according to the user item control command.

1 80. An apparatus of notifying a user of an occurrence of an event
2 associated with a user item, the apparatus comprising:
3 means for receiving a set of notification instructions;
4 means for automatically detecting the occurrence of the event;
5 means for encoding a data packet with event data, the data packet
6 comprising a plurality of content fields, wherein at least one content field comprises a
7 plurality of event data types;
8 means for transmitting the data packet over a communication link to an
9 automated network operations center;
10 means for receiving the data packet at the automated network operations
11 center;
12 means for decoding the data packet;
13 means for making an automatic determination, based in part upon the
14 decoded event data and upon the set of notification instructions, whether the user should
15 be notified of the event; and

16 means for automatically notifying the user of the event if the determination
17 is that the user should be notified.

1 81. The apparatus of claim 80, wherein the event corresponds to a
2 condition of the user item.

1 82. The apparatus of claim 80, wherein the detecting means comprises
2 means for polling the user item.

1 83. The apparatus of claim 80, wherein the detecting means is
2 responsive to a request for detection.

1 84. The apparatus of claim 80, wherein the receiving means comprises
2 means for receiving a set of notification instructions input to the automated network
3 operations center.

1 85. The apparatus of claim 80, wherein the set of notification
2 instructions comprises a notification sequence.

1 86. The apparatus of claim 80, wherein the set of notification
2 instructions comprises the selection of at least one of a plurality of notification devices.

1 87. The apparatus of claim 80, wherein the detecting means comprises
2 means for receiving user item location information from a GPS receiver.

1 88. The apparatus of claim 80, wherein the automatic notification
2 means comprises means for providing a user item location.

1 89. The apparatus of claim 83, further comprising means for
2 automatically performing an action upon the user item in response to the occurrence of
3 the event, wherein the step of automatically performing the action is controlled by the
4 automated network operations center.

1 90. The apparatus of claim 80, wherein the receiving means comprises
2 means for receiving a user item control command.

1 91. The apparatus of claim 80, wherein the content field which
2 comprises a plurality of event data types occupies approximately one byte of the data
3 packet.

1 92. The apparatus of claim 80, wherein the content field which
2 comprises a plurality of event data types occupies two digits of the data packet.

1 93. The apparatus of claim 81, wherein the user item is selected from
2 the group consisting of vehicles, residential property, commercial property, and personal
3 items.

1 94. The apparatus of claim 84, wherein the notification instructions are
2 input via a public information network.

1 95. The apparatus of claim 84, wherein the notification instructions are
2 input via a telephone.

1 96. The apparatus of claim 84, wherein the notification instructions are
2 input via a keypad corresponding to the telephone.

1 97. The apparatus of claim 84, wherein the notification instructions are
2 input via a telephone utilizing voice input and wherein the automated network operations
3 center comprises a voice recognition system.

1 98. The apparatus of claim 86, wherein the plurality of notification
2 devices is selected from the group consisting of facsimile machines, telephones, pagers,
3 electronic mail, and a public information network interface.

1 99. The apparatus of claim 90, further comprising means for
2 controlling the user item according to the user item control command.

1 100. The apparatus of claim 92, wherein the public information network
2 is the Internet.